U.S. EPA EVALUATION OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY'S UNDERGROUND INJECTION CONTROL PROGRAM FOR CLASS I, IV, AND V WELLS

FINAL REPORT FOR ON-SITE AUDIT HELD JULY 21-24, 2008

The Ohio EPA is responsible for regulating Class I, IV, and V injection wells in Ohio. This is a Federal authority under the Safe Drinking Water Act that EPA transferred to the state in 1985. As a condition of this transfer, the Ohio EPA has a legal obligation to run a comprehensive and effective program that is at least as strict as Federal law in protecting ground water from unsafe and illegal underground injection practices. EPA then has a legal obligation under the Safe Drinking Water Act and other applicable Federal laws to ensure that the state can continue to run a program that meets federal requirements.

EPA, as part of its state oversight function, conducted an on-site evaluation of the Ohio EPA's UIC program during July 21-24, 2008, at state offices in Columbus, Ohio. Findings from this evaluation confirm that the Ohio EPA continues to run a high quality UIC program. Highlights of the review are as follows.

- Highly interested, aware, and effective management team that is focused on results, clear on program direction, and involved at the national level.
- Highly competent, conscientious, and well qualified staff.
- Delivery of high quality and straightforward compliance assistance that encourages high compliance rates at Class I facilities and at identified Class V Motor Vehicle Waste Disposal Well facilities.
- Good coordination between USEPA and Ohio EPA particularly on the carbon sequestration field demonstration project at the Burger plant in Shadyside, Ohio, Class I permit renewals, UIC land ban exemption reviews, and the National UIC database.
- Ohio EPA has met or exceeded national performance activity measure targets for the UIC program.

EPA found the following issues worthy of note.

Limited Resources: Limited resources continue to pose a significant challenge to Ohio EPA in running a comprehensive UIC program. Class V programs nationwide share the same dilemma.

Class V Data Management: Class V data management could improve. Some of the state's data on Class V facilities is incomplete and outdated. Resources for data entry and efforts to close data gaps are needed. Ohio EPA should particularly ensure the

completeness, integrity, and quality of data collected on potential Class V facilities from external databases. Ohio EPA should also continue to organize all Class V facilities into a comprehensive filing system and enter all Class V facility data into a comprehensive state UIC database. Many Class V programs nationwide are dealing with these same data management issues.

National UIC Database: We will continue to work with the Ohio EPA on linking to the national UIC database. The Ohio EPA's participation in this process is invaluable and will help us improve the efficiency and effectiveness of national UIC data collection for overall program assessment and management. The Ohio EPA should consider developing a Trading Partner Agreement between our agencies. This agreement serves to help document and track progress and allow for needed schedule and resource adjustments. It outlines how our agencies will work together to establish routine transfer of the Ohio EPA's UIC program data into the national UIC database. The agreement is also a further good faith testament of the state's commitment to participate in national database efforts.

Carbon Sequestration: Geologic sequestration of carbon dioxide is one of the emerging technologies listed as part of the global climate change initiative to reduce carbon dioxide emissions into the atmosphere. As this technology and the regulatory framework for it develops, our agencies will need to continue to exchange information on regional carbon sequestration efforts and coordinate on experimental projects conducted in Ohio.

Standard Operating Procedures: The state has made a lot of progress in this area and it is highly commendable. Standard operating procedures help ensure consistent, high quality results. They also help preserve institutional memory and facilitate review and streamlining of standard processes to make them more efficient.

Background

Congress established the UIC program under the Safe Drinking Water Act to prevent underground injection practices from contaminating drinking water resources and gave EPA the federal authority to implement this program directly or by transfer of responsibilities to capable state programs. The SDWA sets minimum requirements for states to be eligible to receive transfer of UIC program authority. The state must have the governmental authorities and infrastructure necessary to run an on-going program that is at least as strict as Federal Law.

EPA transferred its Federal authority to regulate Class I, IV, and V injection wells in Ohio to the Ohio EPA in 1985. Ohio EPA's UIC Program is established under the authority of Ohio Revised Code (ORC) Sections 6111.043 and 6111.044 and its regulations under Chapter 3745-34 of the Ohio Administrative Code (OAC). The Ohio EPA's UIC Section of the Division of Drinking and Ground Waters is responsible for program implementation. The state receives Federal funding annually from the EPA in the form of a continuing state environmental program grant to support the state's

program. Federal funding allocations are based on a number of factors including the number of wells that the state has on its current annual injection well inventory, state population, and land area of the state. Ohio currently has a total of ten Class I hazardous waste injection wells operating at three facilities and over 17,000 Class V wells which include one experimental Class V well for carbon sequestration. The state receives approximately $117,000 each year in Federal funds and supplement program costs with state resources.

As part of the annual funding process, state agencies must submit a grant workplan outlining activities that the state will carry out to regulate its injection wells. Federal regulations (40 CFR, Part 35.150) require that USEPA evaluate continuing environmental program work accomplished within each annual grant period against objectives set forth in the state's annual work plans. This includes an evaluation to determine whether costs are eligible, reasonable, and allocable for the intended purpose and for meeting the objectives of the UIC program. On-site visits supplement this grant requirement and serve to ensure that primacy state agencies continue to meet the terms of their delegation agreement.

EPA's Oversight System

EPA's state oversight system in Region 5 for the UIC program is designed to assure that states can continue to run a program that meets federal requirements. This system has evolved over the years. Emphasis shifted away from intensive review of state activities to current methods which balance reviews with mutual discussions aimed at building and maintaining partnerships with states to achieve the best environmental protection possible.

During the initial stages of the UIC program in the 1980s, EPA conducted audits of primacy agencies on a semi-annual basis. EPA reduced this frequency over the years as the state UIC Programs matured and review teams began finding fewer major issues. Based on these factors, coupled with the EPA's on-going emphasis on building partnerships with state programs through the Environmental Performance Partnership Agreement process and other mechanisms, which stress self analysis and self reporting by states, EPA determined that a system of less frequent audits, on a three year cycle, would prove sufficient, so long as other elements of the revised oversight approach, such as desk audits, are followed. EPA reserves the right to increase the frequency of audits for mature programs should major problems in performance be discovered though regularly scheduled audits or other means and for new primacy agencies.

Six main elements comprise the EPA Region 5 state oversight system for the UIC program. They are (1) Negotiation and Tracking of State Commitments; (2) On-going Day to Day Coordination; (3) Review of State Reports; (4) Providing Technical and Program Assistance; (5) Annual State Visits; and (6) Formal On-site Evaluations. This report focuses on the Formal On-Site Evaluation aspect of the process.

Evaluation Methods

EPA's review focused on the key areas of program administration, permitting, compliance monitoring and evaluation, and enforcement. Assessment was made to assure that actions taken are prudent, timely, and technically sound. The review team as part of the assessment evaluated the integrity of the Ohio EPA's methods and procedures, examined electronic and paper records and files, and interviewed management and staff. The review team also reviewed state reported data, policies, and regulations. In determining the success of the state's program, the absence of even an important element in a State program may not by itself mean that the program is ineffective as long as there is a credible program in place for detecting and eliminating unsafe injection practices.

Program Administration

Our assessment indicates that the Ohio EPA is administering an effective program for controlling Class I, IV, and V wells in a manner that is protective of underground sources of drinking water. The Ohio EPA continues to meet grant obligations and base program requirements. The management team is effective. Technical staff is competent and knowledgeable. The state maintains a strong field presence. There is meaningful and effective compliance assistance being provided to Class I facility owners/operators. Practical strategies and insightful prioritization are in place for controlling high priority Class V wells. The state has completed the update of their primacy package for submission to USEPA. There is good coordination and information exchange between the Ohio EPA and USEPA on land ban facilities and carbon sequestration projects. The state has an active Class V enforcement program. Staffing levels are adequate to meet immediate demands. The state has done extensive work in developing standard operating procedures to ensure quality processes and for historical documentation of important work processes. The state has met or exceeded national targets set for UIC program performance activity measures. State reporting is comprehensive and timely submitted. The state quality management plan is current. The state is in the process of developing their database for linkage to the National UIC database. The state also continues to be a major player in the national arena.

Class I Permit, Compliance, and Enforcement Review

Ohio currently has 10 industrial-waste-disposal wells in operation at three facilities. Ten additional wells have been plugged through the life of the state's UIC program. The ten active wells inject approximately 300 million gallons of waste annually into Ohio's deep subsurface strata. The wastes originate from a variety of industrial processes including steel processing (pickle liquor), fertilizer and fungicide production, and plastics production. Some of the newer components of this waste stream are products of other waste-disposal and clean-up methods such as incinerator scrubber water, liquids recovered from remediation of industrial spills, and leachate from solid-waste disposal sites. Only one site operates a commercial waste disposal facility where the well receives many types of waste from multiple sources. The remaining facilities dispose of wastes generated on site during normal manufacturing operations.

Overall, the USEPA finds that the Ohio EPA continues to operate an effective program that is protective of USDWs. USEPA made some very minor observations for both the Ohio EPA and the USEPA to note. A summary of these very minor and, for the most part, general observations follow. No significant issues were identified.

Vickery: This facility has four hazardous Class I injection wells. Well #6 had a major well workover in 2004 because the well was beginning to lose mechanical integrity. The well was shut-in before the rework. During the rework, major defects were found in the casing between 2700 – 2750 feet. Logging determined that the well had failed at this interval. The company milled out the liner and Hastelloy and squeezed approximately 2900 sacks of cement into the problem zone to isolate it. The problem zone is the Rome Formation which is the sandstone layer between the two dolomites approximately 60 to 100 feet above the top of the Mt. Simon Sandstone. This same well was reworked in the 1980's due to failure at the same interval. Ohio EPA had identified these same issues and has been working with the facility to address them.

Ineos (formerly Innovene): This Lima facility has four active hazardous Class I injection wells and is exploring the possibility of a fifth well. Permits for the four wells were issued on December 09, 2005 and are valid through December 12, 2010. The injection interval is the Eau Claire and Mt. Simon at 2783 – 3220 (KB) feet. The containment interval is the Eau Claire at 2430 – 2783 feet and the confining zone is the Knox from 2107 – 2430. The Ohio EPA gets a quarterly analyses for metals, organics, and other constituents found in the disposed wastestream; and a weekly analysis for pH; s.g., TDS, TSS, acrylonitrile, and acetonitrile. Monthly reports document results of quarterly injection fluid analyses. The state looks for trends and anomalies in chemical data. The state enters chemical data into a spreadsheet and places a check mark on the report to indicate that the data has been entered. The state currently does not compare the chemical data that they receive against concentration limits set in the Federal land ban petition. This has generally not been a problem as the limits are well above concentrations that the company generates. The same is true for limits on injection rates. As a random compliance check, USEPA compared the limit for injection rates set in the Federal petition with the total injection rates reported on the March monitoring report and found these rates to be within the Federal petition limit. Injection rates were 119.4, 125.6, 120.4, and 124.7 for a total of 490.1 gallons per minute. The Federal limit is 555 gallons per minute. Our agencies have been in consultation to ensure that the state permit and the federal exemption correlate and are effectively monitored particularly for concentration limits and maximum injection rates. When the state permits come up for renewal, the state will include the federal limits. USEPA has required companies to submit reporting data on the federal limits to the Region 5 office.

The review team noted discrepancies with reporting of maximum wellhead pressure. In several monthly monitoring reports for maximum wellhead pressure, the company had reported the average of injection rates as the maximum when they should have reported the true maximum. For example, on page 2 of the January monitoring report for well #3, the maximum wellhead pressure is reported to be 612.5 which is the average of the injection rates when on the same report the maximum rate of all the rates reported in that

month is 712.3. This type of error also occurred in the reporting for March, April, August, and September. This appears to be an honest mistake and would only present a problem if the Ohio EPA uses this data to calculate compliance with limits set for maximum yearly average rates which they do not. Ohio EPA should make the company aware of this discrepancy to ensure integrity of reporting for this element.

Testing data from Well #2 was showing a significant change from one test to another in many parameters (inner & outer permeability, inner radius, kh, skin, formation pressure 1352 – 1419 psi). The Ohio EPA collaborated with consulting expert R. M. McKinley on the fall off test to determine whether this was a problem. McKinley concluded that this may be a background anomaly because there is a high degree of similarity among tests from the different wells at the site. Match of observed and calculated was excellent. The USEPA is satisfied with the conclusions and commends the Ohio EPA for noting the anomaly and taking efforts to determine whether or not this issue posed a significant threat.

The review team evaluated the radioactive tracer survey (RTS) dated May 1, 2008. While the depths used to run the five-minute statistical checks appear to give satisfactory readings, USEPA believes that using the hottest and the coolest depths feasible for each measurement would yield more informative results. The Ohio EPA should consider using these other depths in their recommendations to the operator. For "cool" or less radioactive depths, 3035 feet would be much better than the 2650 feet that was chosen. For "hot" or more radioactive depths, 2885 feet would be better than the 2825 feet that was chosen. The upward moving slug clearly stops at 2835 feet but trace #3 peaked at 2830 feet. The second slug chase was the same. Time drive shows second detection by bottom detector (2800 feet) at 490 seconds. Seen in top detector (2786 feet) at 560 sec, very reduced. Final base log: initial is higher from 2735 feet to 2846 feet. McKinley notes that this data indicates that very little rises past 2786. The top of the injection interval is 2783.

AK Steel (formerly Armco): This facility has two hazardous Class I injection wells. For years, OEPA was unable to re-issue UIC permits for the two wells due to the company's non-UIC related non-compliance issues with other state programs. As a result, these wells had been operating under expired but valid and enforceable permits since 1996 because AK Steel timely submitted their renewal applications. OEPA settled its cases against AK Steel in May 2005 and UIC staff was then able to work with AK Steel on their UIC permit renewals. The OEPA issued permits for both injection wells on October 10, 2007. The permits are set to expire October 12, 2012. USEPA reviewed permitting records for both wells and found that the Ohio EPA's assessment of the permit application and calculations made to set permitting parameters were technically sound and in-line with UIC regulations. There have been no mechanical issues with either well since the last state review in 2004.

OEPA allowed AK Steel to use the bottom-hole pressure as the measure of compliance. Under this scenario, the surface MIP can vary depending on the specific gravity of the injected fluid which can vary up to a maximum of 1.24 as long as the bottom hole

pressure does not exceed the allowed maximum. USEPA generally uses the surface MIP because it is much easier to monitor compliance and because the technology to monitor bottom-hole pressure is still new. AK Steel and their consultants as well as state staff are sufficiently experienced to effectively supervise the alternative approach. AK Steel typically injects at pressures far below the established limit which also mitigates cause for much concern. The actual maximum injection pressure is 100 pounds per square inch and the allowable is 618. Injected volumes are also down from 100,000 tons a year in past years to 47,000 tons a year. OEPA amended the plotting data to include bottom-hole pressure. OEPA made the MIP equal to the maximum amount that could be measured on the circular chart which was thoughtful as a higher MIP could not be measured. OEPA set continuous monitoring as every 5 seconds. USEPA shared with OEPA draft guidelines for operators to use when doing computer-based continuous monitoring and welcomes state review and comment. Any input that the state can provide is invaluable. OEPA indicated that they would be able to provide comments if any by the end of August.

USEPA reassessed the AK Steel land ban petition and issued a final decision to renew it on August 11, 2008. The maximum injection rate is 60 gallons per minute which is lower than the initial 90 gallons. The Ohio EPA issued their permits prior to this change but will be sure to use the lower rate when the state permits come up for renewal. The company must follow the lower USEPA limit even in the absence of this change. Ohio EPA inputs chemistry data from AK Steel's sampling reports into a spreadsheet that is housed on a local drive. USEPA noted that Nickel, which has a federal exemption limit, is not one of the chemicals analyzed in the sampling report to the state. Our agencies have been working together to ensure that the state permit and the federal exemption correlate particularly for concentration limits and maximum injection rates.

Arvesta: The Class I wells at the Arvesta facility are plugged. A monitoring well was drilled to allow post-closure monitoring of the local shallow ground water (less than 100 ft deep) through periodic sampling. The company is continuing its monitoring activities and has not submitted a formal request to stop. The company plans to maintain its financial assurance for post-closure activities and wants to transfer its letter of credit to a different bank. OEPA identified one instance where the company forgot to submit sampling results (December 2007) and another instance where the company failed to sample (June 2008). OEPA is adequately addressing these discrepancies through compliance assistance and a notice of non-compliance.

Carbon Sequestration: Ohio EPA has issued a permit to Battelle Memorial Institute who in partnership with FirstEnergy will operate a carbon dioxide (CO2) injection well at the R.E. Burger Power Plant in Shadyside, Ohio. The CO2 will be trucked in, food grade as the company couldn't get the capture equipment in time. USEPA had reviewed the draft permit and provided comment. The state held a public meeting on the draft permit. There were 50 people in attendance, the majority of which were from the Burger Plant, FirstEnergy, Batelle, and the Department of Energy. The state presented the information and did a question and answer period. Two people spoke on the record. The state received two letters one of which was from one of the two people who spoke at the public

hearing. Some people indicated that they have a problem with the classification of the project as "experimental" where really only the capture of CO2 is experimental and well injection is not. The Ohio EPA's classification of the injection well is adequate for this scale of project. Batelle will test three zones as part of the field demonstration project. The whole project will involve sequestering only 3 tons of CO2--one in each zone. This amount is equivalent to 5-6 days of total plant output. The company encountered some problems with the cement job where the cement was flushed too high above the zone. The Ohio EPA is working appropriately with the facility to address this issue as well as to ensure compliance for the protection of ground water resources.

Another carbon dioxide capture and sequestration project is being planned in Greenville, Ohio. Battelle is also leading this project and has not yet submitted a UIC permit application. OEPA informed Battelle that because of the volumes being projected that the state would permit the planned injection well as a Class I non-hazardous well and not a Class V experimental well. The Ohio EPA should keep us updated as the UIC aspect of the project develops.

The new UIC CO2 injection rule has been drafted and is out for public comment. OEPA will review and provide comments if needed. USEPA informed the OEPA of the upcoming public hearing on the new rule which was held at USEPA's Region 5 office in Chicago on September 30, 2008. Final rules are pending.

Class I Performance Activity Measure: Ohio EPA assured that 100% of Class I wells maintained mechanical integrity. This percentage met the regional targets of 100%.

Class IV

There were no identified Class IV wells in Ohio at the time of our review. Identification and referral of such wells, if any, would come from state field staff.

Class V

USEPA commends the state overall for its efforts in this area.

Class V Performance Activity Measures: The Ohio EPA permitted or closed 57% of high priority wells identified in source water protection areas and closed 93% of motor vehicle waste disposal wells identified statewide. These percentages exceeded the regional targets of 50% and 70% respectively.

Strategy for Addressing Class V Wells in Ohio: The state's priorities for addressing Class V wells are permitting or closing identified high priority wells with focus on MVWDWs, cesspools, and industrials. The Ohio EPA gives highest priority to those located in source water protection areas. The Ohio EPA periodically does a mass mailing to all high priority Class V well facilities informing them of UIC requirements. The last mailing at the time of the review was done in March 2007. The Ohio EPA uses enforcement against owners and operators of high priority wells judiciously and finds

more Class V wells using methods beyond existing identification efforts as resources allow. The Ohio EPA's approach is consistent with national UIC program priorities.

Motor Vehicle Waste Disposal Wells: The state has notified by certified mail all MVWDW facilities on their inventory that have active wells about UIC closure requirements. These remaining active wells represent the most challenging of the state's identified well universe mostly due to outdated information and lack of resources for field verification in more remote locations. The state is down to those facilities where several mailings have come back return to sender, physical buildings can not be located, and owners/operators have not responded to several mailings. The Ohio EPA expects that enforcement may be needed on a good number of these facilities which will be a substantial workload increase for state staff. The Ohio EPA also seeks out new wells to the extent that resources allow. The Ohio EPA has been identifying new facilities at a rate of 1-2 per quarter from quarterly reviews of source water assessment data. The Ohio EPA has also been using surface water data to find new high priority wells but has found limited success in this area.

Using Source Water Assessment Data to find High Priority Wells in SWPAs: The state reviews assessment data county-by-county and is able to do 3 counties per quarter. The initial counties selected were those closest to state offices. The state had completed 13 of 88 counties at the time of the review. At this rate, the state will have completed all counties within 6 years. State staff plots existing well locations against assessment data using the agency's GEO database and also looks for unidentified potential high priority facilities. The state also uses aerial photos from Google earth to assist in identifying facilities. In the most recent quarterly check, the state targeted 49 facilities for follow-up. Of these facilities, 3 have been closed, 21 turned out to have either non-endangering large septic systems or no well, 1 well was still active at the time of the review, and 24 were unresolved at the time of the review due to no reply from the facility, return to sender, or additional information being needed to determine facility compliance status.

Aquifer Remediation Projects: Over the years, these projects have generated quite a bit of workload for the state. The state has a good system in place for reviewing and tracking these projects which involve the use of Class V wells as part of various clean-up efforts throughout the state. The Ohio EPA can and has requested additional information when warranted to assure ground water is protected.

Surface Water Data: The Division of Drinking and Ground Waters continues to coordinate with the Division of Surface Water. Such coordination is significant in helping facilities comply with UIC regulations. UIC staff receives monthly reports and actual approvals for permits to install wastewater treatment systems. The Ohio EPA is still trying to figure out how to best translate this data for program use. The monthly reports do not have enough information to determine whether the system at the facility will be a Class V well and if so what type. There is also no procedure in place to follow-up on whether these systems were actually installed or if installed whether they classify as a Class V well and if so what type. Both Divisions agreed that permits to install should include a condition that the company submit a UIC inventory form to UIC staff.

This condition is not always found in the surface water permits. The Ohio EPA needs a procedure in place to follow-up on these facilities and to ensure that quality data is compiled and entered into the UIC database and filing systems.

Class V Well Files & Data Management: The Ohio EPA has a mix of electronic and paper records for known Class V wells. All permitted Class V facilities get entered into the main UIC database. Most of the state's Class V files are kept in the file room. The more active files are placed in cabinets near staff for convenience. Class V files are sorted by county then by well or no well. Most facilities do not have individual files. The Ohio EPA should consider creating individual files for every Class V facility. This will help ensure the integrity of the Class V well inventory and allow the state to better identify data gaps.

EPA noted some discrepancies in the well inventory database for example a well status was found in the fax number field. Some of the field entries were also confusing. For example, some well types were listed as "no type indicated" and "unknown". The distinction between these two well types is not clear. Also, the number of mine backfill wells is reflected in the "notes" field and must therefore be counted manually. There may be some minor changes that the Ohio EPA can implement to enhance their ability to report out details regarding their Class V well universe more easily. One example could be adding a pull down menu from which the data entry person can select from a list of the various scenarios for well status. This will help the state more easily account for those wells that are closed but where the state is awaiting final documents from the operator for example. This will also provide an easy way to enter the surface water permit to install facility data as a proposed well or status on facilities with vacant buildings or no building found.

Transfer of State Data to the National UIC Database: The Ohio EPA is looking to adapt the Utah UIC 1422 program database to Ohio's needs. Utah's UIC program is similar to the Ohio EPA's UIC program. This will save the Ohio EPA time and effort in developing a program that will serve as the state's permanent database and that will link to the new national UIC database. Utah's UIC program database is also one of the pilots being tested nationwide for linkage to the national UIC database. As a result, many of the bugs encountered with the Utah system during transfer to the National UIC database will have been worked out before the Ohio EPA's use. This will greatly facilitate Ohio EPA's efforts to link to the national database.

Class V Permitting: Ohio EPA has an active and effective permitting program in place for Class V wells. Some of the more challenging cases include permit applications involving Dorr, Consol Coal, and Century Mine/Ohio Valley Coal owned by Murray Energy. An impressive amount of work has been done managing the universe of Class V wells needed for the various aquifer remediation throughout the state. More recently several facilities in the Dayton, Ohio area are undergoing remediation efforts. The state has been equally active permitting various other types of Class V wells. USEPA commends the state for their efforts in this area.

Consol Coal Permit Appeals: The state issued Consol Coal a permit to operate an acid mine drainage disposal well. The company appealed its own permits. At issue is the state's designation of underground sources of drinking water. This facility is 10 miles from the Ohio River. The Ohio EPA should be sure to keep USEPA updated on the status of this case.

Class V Enforcement: Ohio EPA has an active Class V enforcement program. Some of the more controversial and challenging cases include Behr Dayton Thermal Products (formerly DaimlerChrysler Corporation and the Ohio Department of Transportation. These and other cases are summarized below.

Hord Livestock: Ohio EPA issued a notice of violation to this company on July 16, 2008 for operating without a permit. The company has the capacity to discharge up to 1,900 gallons of waste water per day and uses the Class V well to dispose of truck wash waters. Ohio EPA continues to work with the owner/operator to reach a satisfactory resolution.

Behr Dayton Thermal Products (formerly DaimlerChrysler Corporation): This is a controversial site that has been the subject of several citizen complaints. Extensive contamination was found in the soil and ground water below this facility. Off site migration of the contaminant plume was also detected. The parties involved agreed to enter the Ohio EPA's Voluntary Action Program to begin site remediation. Under this program the company submitted a UIC permit application requesting use of a Class V well as part of remediation activities. At the time Ohio EPA was processing the permit, the City of Dayton had several concerns related to off-site migration toward the Great Miami Well Field Protection Area. The Ohio DNR noted at the time in letters to the Ohio EPA dated April 30, 2003 and May 23, 2003 that logs for the test borings and monitoring wells, and details of the ground water flow model were not included in the application and that they would require these items to complete a thorough evaluation of the project. They state that this data would have helped the Ohio DNR independently analyze the adequacy of the interpretation of the geologic framework that is presented in the cross-sections included in the application. The Ohio EPA public noticed and issued draft and final permits for the operation of an industrial Class V well in 2003. After receiving the permit, the involved parties withdrew from the Ohio EPA's Voluntary Action Program. The Ohio EPA appears to have taken the steps necessary to ensure no migration off-site. Compound concentrations appear to be well below established permit limits from reviewing monthly monitoring reports from 2004 to 2008. A capture zone analysis which should show if pumped water is coming from this site's pumping wells. The site has been submitted for placement on the National Priority List. The Ohio EPA continues to respond to concerned parties as appropriate.

Reck: This facility has three active, non-performing septic systems. The company does not appear to be cooperative. The Ohio EPA may need to escalate enforcement.

Allstate Peterbilt: Ohio EPA identified this facility through an Ohio EPA Division of Surface Water staff inspection. The owner/operator agreed to tie into the local sewer

system but the state has yet to receive verification. The Ohio EPA has referred this case for enforcement.

Tiger General: This facility received a permit to install. Ohio EPA needed a search warrant to inspect the property and is reluctant to return to the facility. The Ohio EPA will need to determine how to best ascertain the status of this facility.

Vicks: This facility has an industrial well that needs to be addressed. The shop is currently shut down. Ohio EPA may need to escalate enforcement action.

Ace Customs T-Shirts: This facility was located on an old school ground. There is an industrial Class V well located at the facility. This facility is apparently out of business. Enforcement resolution is pending.

This facility submitted a permit application to operate a large capacity septic system. The permit was approved but the owner/operator did not begin construction. Ohio EPA notified the operator that the well type needed to change based on the information submitted. The operator has not responded. Follow-up is needed to ascertain the status of the well.

ODOT District 2: This state agency was due to install a holding tank in Spring 2008. They requested a variance for their Henry and Wood county garages as the sewer system will not be available in the area of these facilities for several years. Sampling results are taken monthly. The ODOT expected to hook Class V facilities to sewer where available. They also have backfill subsidence wells. Sampling results are taken monthly. Ohio EPA continues to work with the district to reach a satisfactory resolution.

Bellevue: Bellevue is located in the North Central part of state. It is a karst area of cavernous limestone through till karst. The area has a high water table, many sinkholes some of which are enhanced, and many stormwater drainage wells. There have been complaints against Bellvue Hospital's storm water drainage wells. The area experienced severe flooding. Several homes were affected. A plume of contamination has been identified from Bellvue migrating towards Lake Erie. The Ohio EPA received three citizen complaints. DNA studies as well as other studies are being done to identify the source of drinking water contamination. The Ohio EPA continues to address citizen complaints.